



# **Austin Water Affordability Metrics Report**



**June 2019**

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## **Report Overview**

Austin Water initiated the Austin Water Affordability Benchmark Study in response to City Council Resolution No. 20180201-068, which directed the City Manager to provide information on internal affordability benchmarks, conduct a comprehensive affordability study and make recommendations on affordability metrics to track and communicate. The Austin Water Affordability Benchmark Study was completed and provided to Council in December 2019.

This Affordability Metric Report provides updated results of the recommended affordability metrics from the Study. Also, Austin Water has included additional affordability metrics which provide supplementary results. The bill comparison metrics include 2019 updates to other Texas and national cities' water and wastewater rates.

The metrics include the following:

## **Index of Affordability Metrics**

**Metric #1: Historical Rate Index**

**Metric #2: Residential Low Volume Bill Comparison**

**Metric #3: Residential Average Customer Bill Comparison**

**Metric #4: Affordability Ratio (AR<sub>20</sub>)**

**Metric #5: Hours Minimum Wage**

**Metric #6: Average Annual Bill as % of Median Household Income**

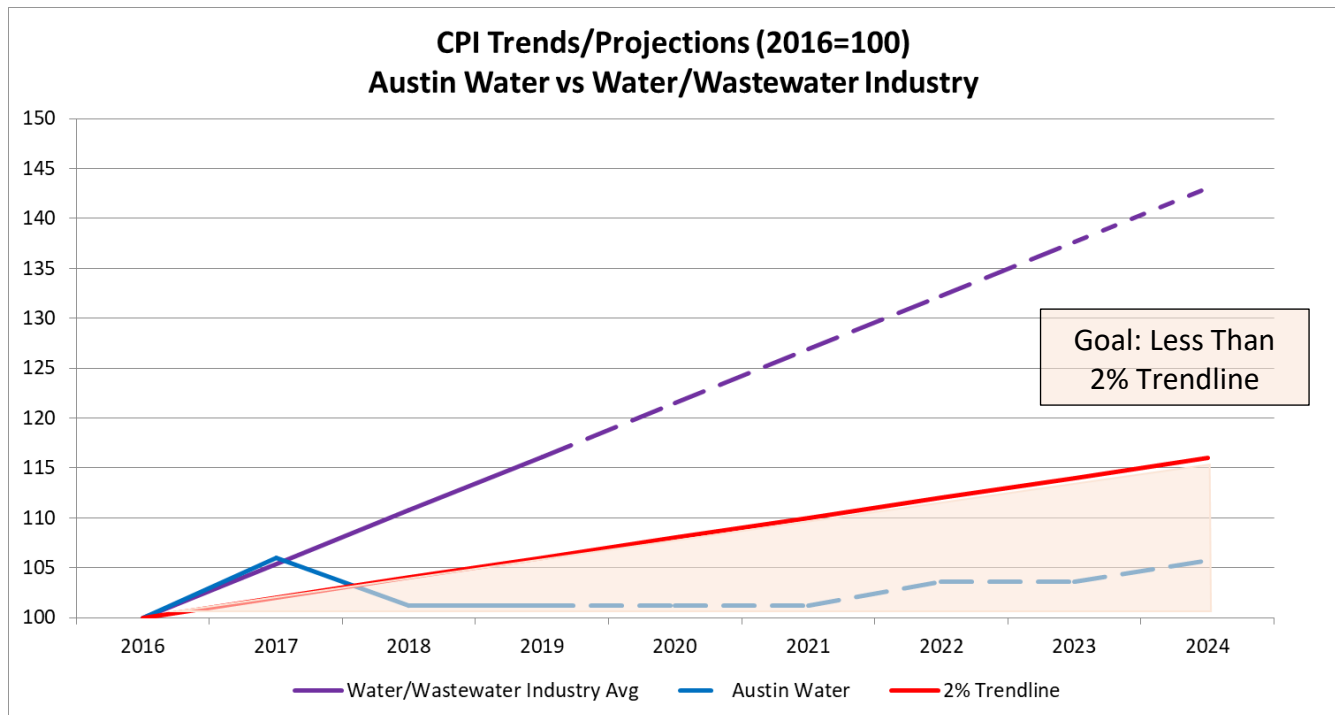
**Metric #7: Average Historical Annual Bill as % of Median Household Income**

**Metric #8: CAP Customer Historical Average Bill**

**Metric #9: High Volume Residential Bill Comparison**

## Metric #1: Historical Rate Index

This metric includes a comparison of the Austin Water historical rate increases, the water and wastewater industry cost index, and a reference 2% annual rate increase trendline. Each of these indices would be calculated using a base year of 2016. The goal for this benchmark would be for Austin Water to remain under the 2% annual rate increase trendline. This goal to remain under 2% represents approximately 50% of the current water and wastewater industry index historical trend. This benchmark is consistent with the current Austin Energy benchmark of remaining below a 2% annual rate increase trend.



The graph above shows for 2016 and 2017, AW was trending along the water and wastewater industry index level and above the 2% annual rate increase trendline. This was due to the rate increases experienced during these years. However, in the FY 2018 Approved Budget, Austin Water submitted a 0% rate increase and subsequently Council approved an amendment to the budget in April 2018 to implement a mid-year 4.8% rate reduction. With this rate reduction in 2018, Austin Water rates are below both the water and wastewater industry index and the 2% annual rate increase trendline. The graphic also provides for a projection of these indices through 2024. The water and wastewater industry index used a historical 15-year average increase to project through 2024. The AW projected rates through 2024 are based on Austin Water's Financial Forecast completed in April 2019. This forecast assumed no rate increases for FY2019, FY2020 and FY2021, and only a 2.4% and 2.1% increase in both FY2022 and FY2024, respectively. With AW proposing multiple years of no rate increases and only two years of rate increases at about the 2% level, the projection of the cost trends for Austin Water is currently below the 2% trendline. These results are consistent with those of the 2018 Affordability Benchmark Study which also showed AW below the 2% trendline. However, these results show an improvement in that rates are projected to remain flat through 2021, one additional year.

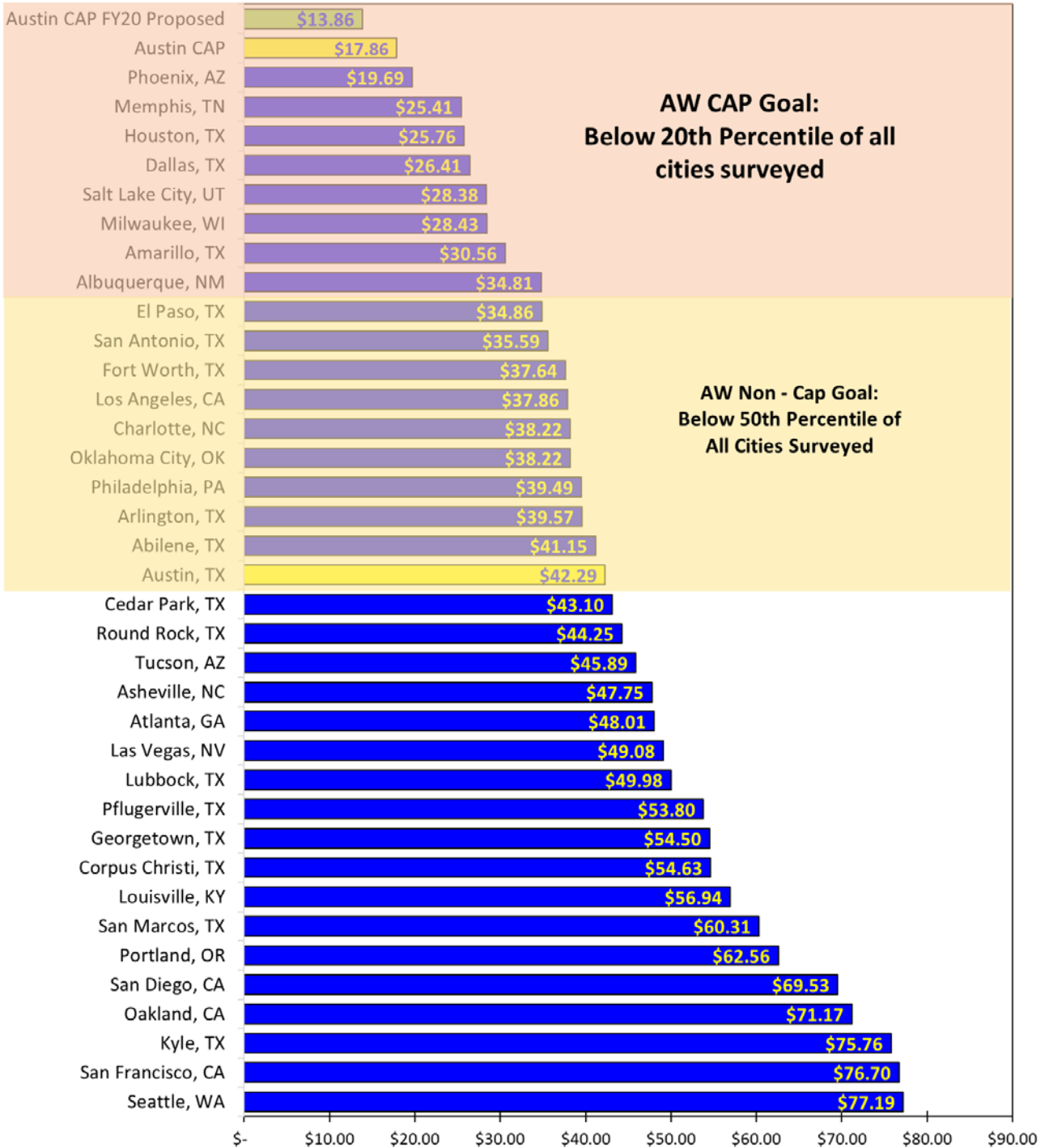
## **Metric #2: Residential Low Volume Bill Comparison**

This metric includes a low volume user bill comparison of Texas and national cities which uses combined water and wastewater bills based on customers using 3,000 gallons of water and 2,000 gallons of wastewater. The comparison of low volume bills is consistent with Austin Water's rate structure goals to promote water conservation and provide affordable basic water services to our customers. The CAP customer bill at low volumes should be at affordable levels so the most vulnerable low-income customers have access to basic water services at affordable costs.

AW's goal of low-volume CAP residential customer bills being below the 20<sup>th</sup> percentile of all cities surveyed. Currently, Austin Water CAP residential low-volume bills are the lowest of all Texas and national cities surveyed. This is consistent with the 2018 Affordability Benchmark Study which had AW CAP customers the lowest of all cities surveyed. This is due to the significant fixed fee and volumetric bill discounts provided to our low-income CAP customers to keep their bills at affordable levels. For FY 2020, AW will propose a \$4.00 per month reduction to CAP customer average bills by providing an increased discount to water and wastewater volumetric charges. This will move the CAP customer bills even lower and will remain the lowest of all cities surveyed.

For non-CAP residential customer bills, AW's goal is being in the bottom half of all Texas and national cities surveyed. Currently, Austin Water is ranked 18<sup>th</sup> out of the 36 cities surveyed, exactly at the 50% level. This is consistent with the 2018 Affordability Benchmark Study which had AW non-CAP customers ranked 18<sup>th</sup> out of the 36 cities surveyed. As Austin Water's rates are projected not to increase until FY 2022, it is expected that our ranking within this benchmark will begin to improve.

**AVERAGE MONTHLY BILL COMPARISON - COMBINED  
RESIDENTIAL CLASS  
Existing Rates - (3,000 Gallons Consumption and 2,000 Flows)**



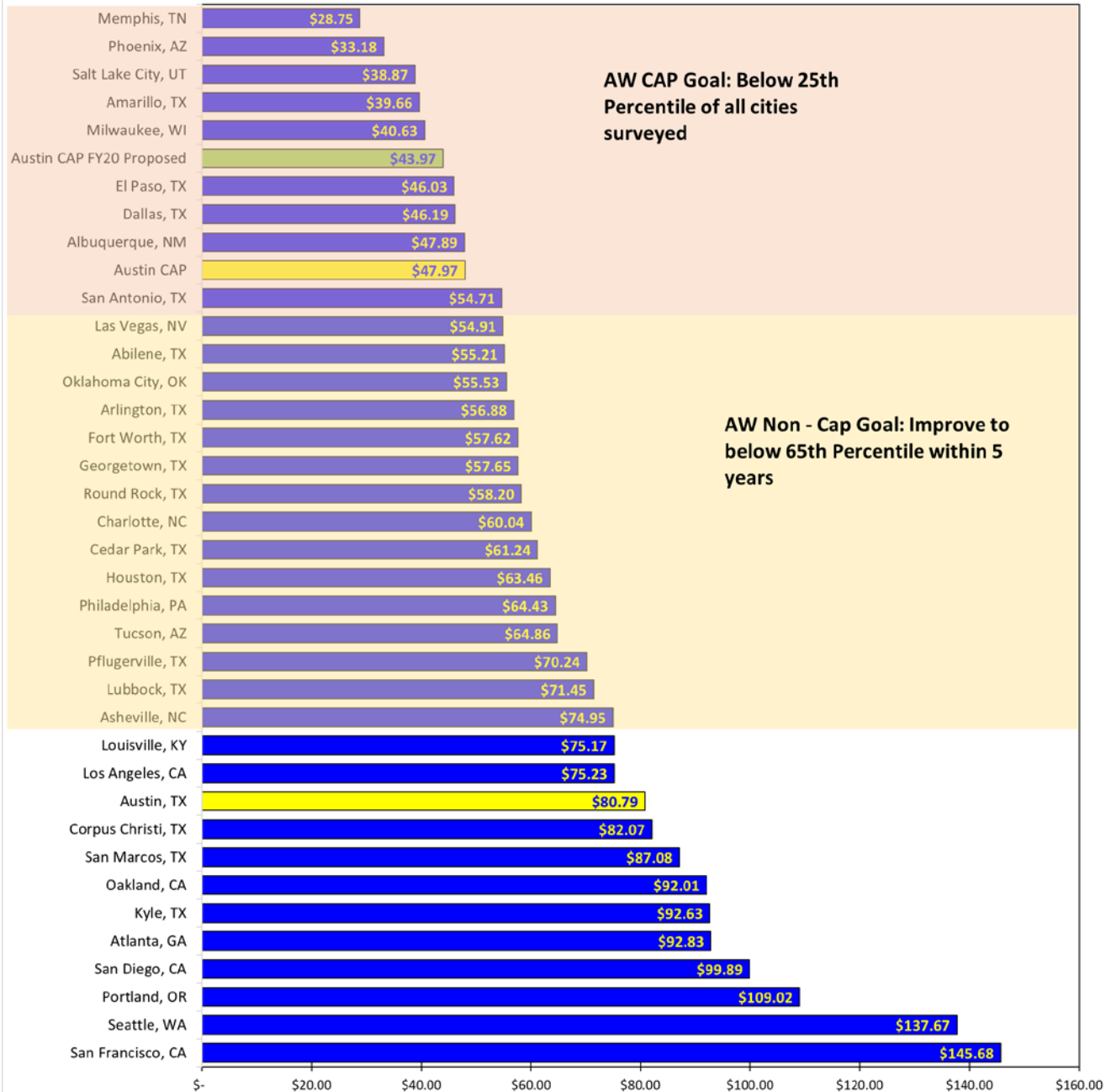
### **Metric #3: Residential Average Customer Bill Comparison**

This metric includes a residential average customer bill comparison. This metric compares combined residential water and wastewater bills at the current Austin Water average residential customer usage levels of 5,800 gallons of water consumption and 4,000 gallons of wastewater discharge per month. Approximately 65% of Austin Water's customers have bills that are at these levels of usage or below. Comparing combined bills at these levels is consistent with Austin Water's rate structure goals to promote aggressive water conservation by our customers. The graph also shows the Austin Water CAP customer bill, which highlights the affordability of our water services to our most vulnerable low-income customers.

AW's goal for CAP residential average bills is at or below the 1<sup>st</sup> quartile, or lower 25%, of all Texas and national cities surveyed. Currently, Austin Water's CAP bill is within this 1<sup>st</sup> quartile goal, ranking 9<sup>th</sup> out of 36 cities surveyed, exactly at the 25% level. This is consistent with the results of the 2018 Affordability Benchmark Study. For FY 2020, AW will propose a \$4.00 per month reduction to CAP customer average bills. This will reduce the CAP customer bills even lower and will be ranked 6<sup>th</sup> out of 36 cities surveyed.

For our non-CAP residential average bills, AW's goal is to improve to below the 65<sup>th</sup> percentile of all Texas and national cities surveyed over the next five years. Currently, Austin Water's average residential bill is at the 75<sup>th</sup> percentile, ranking 27<sup>th</sup> out of 36 cities surveyed. This is consistent with the results of the 2018 Affordability Benchmark Study. Over the next five years, Austin Water anticipates significant improvement within this benchmark given the projection of no rate increases over the next two years and with minimal rate increases after that.

**AVERAGE MONTHLY BILL COMPARISON - COMBINED  
RESIDENTIAL CLASS  
Existing Rates - (5,800 Gallons Consumption and 4,000 Flows)**



## **Metric #4: Affordability Ratio (AR<sub>20</sub>)**

The Affordability Ratio 20 (AR<sub>20</sub>) is one of two benchmarks advanced in an American Water Works Association (AWWA) publication article written by Professor Manuel P. Teodoro of Texas A&M University. The title of the article is: Measuring Household Affordability for Water and Sewer Utilities, Journal AWWA, January 2018. The article provides a rationale for measuring the affordability of water and wastewater costs based on the impact on low-income households.

The AR<sub>20</sub> metric measures the ability of low-income customers to pay for basic water and wastewater services after paying for other essential costs such as food and housing. The focus is on low-income customers who are at the 20<sup>th</sup> percentile of household income, as opposed to looking at customers at the higher median household income. These low-income customers represent the most vulnerable households in which affordability of water and wastewater services is critical. The level of household water and wastewater use for this benchmark is for basic health and sanitation needs, represented by 4,000 gallons of water consumption and 4,000 gallons of wastewater discharge per month. This focus on lower volume needs is presumably more representative of the basic water needs of low-income customers. This benchmark is generally easy to update each year through calculation of bills at the current rates. However, the estimation of each city's essential costs, other than water and wastewater services, can be more difficult to update annually and may require consultant assistance to provide updates.

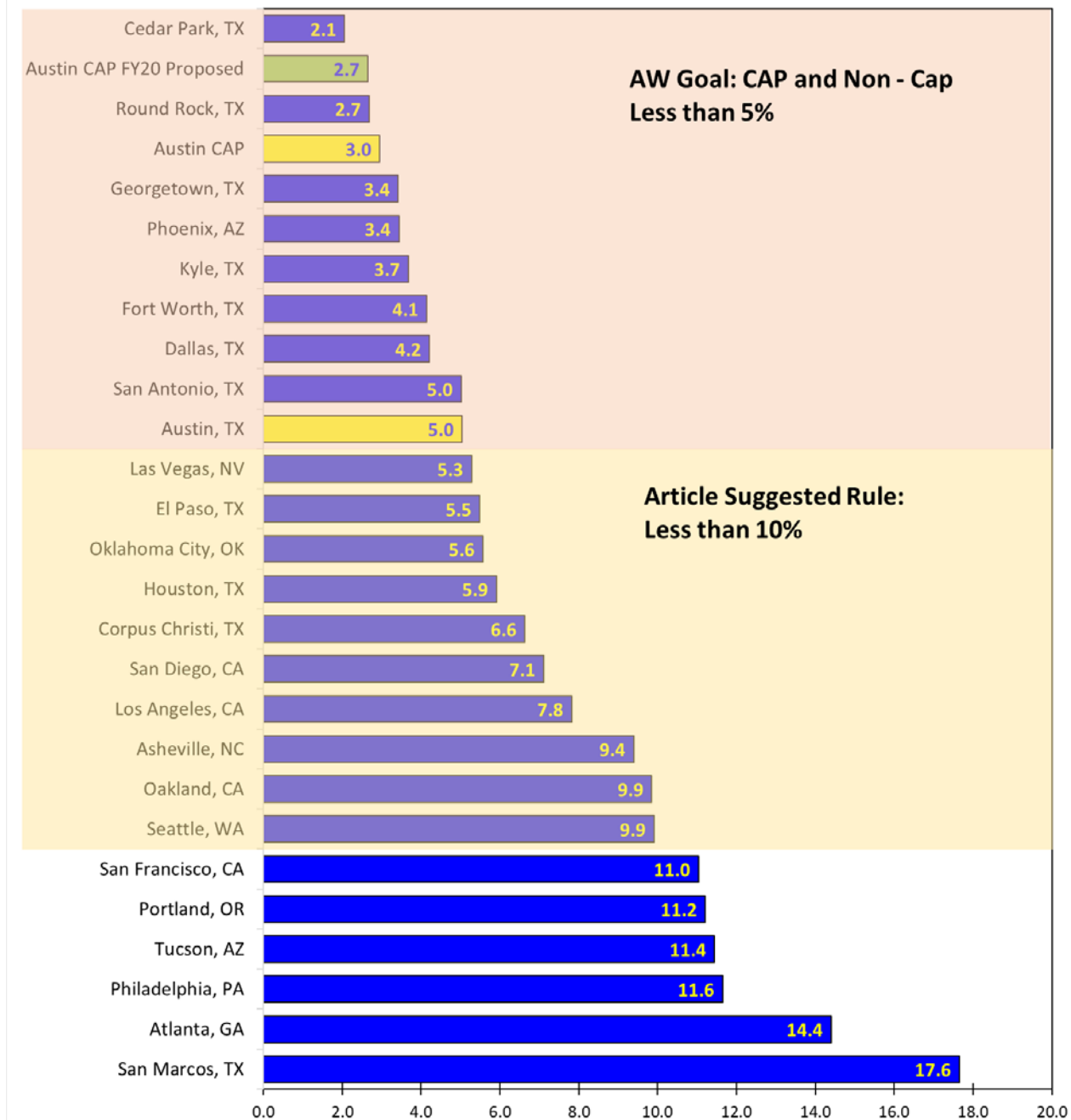
Professor Teodoro has suggested a rule of thumb of less than 10% of remaining income, after paying for other essential costs, would be needed to pay for basic water and wastewater services. Austin Water's goal is set at an even more affordable 5% goal for average residential CAP and Non-CAP customers.

Currently, for the Austin Water CAP customers, the bill for basic water needs for low-income customers at the 20<sup>th</sup> percentile income level is only 3.0% of the remaining income after paying for other essential costs, and the lowest of any major Texas city surveyed. This is consistent with the results of the 2018 Affordability Benchmark Study. For FY 2020, AW will propose a \$4.00 per month reduction to CAP customer average bills. This will move the CAP customer bills even lower to a 2.7% level and will be the 2<sup>nd</sup> lowest of all cities surveyed.

For non-CAP customers, bills for basic water needs for low-income customers at the 20<sup>th</sup> percentile income level are only 5.0% of the remaining income after paying for other essential costs. This is a 0.2% improvement as compared to the 2018 Affordability Benchmark Study. While this result is right at the 5% Austin Water goal, it is well below the recommended 10%. As Austin Water's rates are projected not to increase until FY2022 at the earliest, it is expected that the percentage of income needed by non-CAP customers to pay for basic water and wastewater services will continue to improve.



**Basic Water and Wastewater Services**  
**Affordability Ratio 20 (AR<sub>20</sub>)**  
**Existing Rates - (4,000 Gallons Consumption and 4,000 Gallons Flows)**



## Metric #5: Hours Minimum Wage

The Hours Minimum Wage (HM) is one of two benchmarks advanced in an American Water Works Association (AWWA) publication of an article written by Professor Manuel P. Teodoro of Texas A&M University. The title of the article is: Measuring Household Affordability for Water and Sewer Utilities, Journal AWWA, January 2018. The article provides a rationale for measuring the affordability of water and wastewater costs based on the impact on low-income households.

The HM simply takes a combined water and wastewater bill calculated with 4,000 gallons of water consumption and 4,000 gallons of wastewater flow monthly (to represent consumption for health and satiation) for each utility and divides it by the minimum wage per hour in each community<sup>1</sup>. This indicates how many hours a person must work at minimum wage (ignoring taxes) in order to pay for the combined water and wastewater bill at 4,000 gallons. In his article, Professor Teodoro suggested a HM of less than 8 hours as an affordability rule-of-thumb. The intuition behind this threshold is that nobody should have to work for longer than one standard work day at minimum wage in order to afford their combined water and wastewater bill.

The Hours Minimum Wage benchmark is generally easy to calculate given the availability of information on minimum wage and the ease of calculating bills for basic service. However, this benchmark is not widely used in the industry. Additionally, the minimum wage has historically remained relatively constant over longer periods of time, making the results of this benchmark likely to trend higher as bills rise.

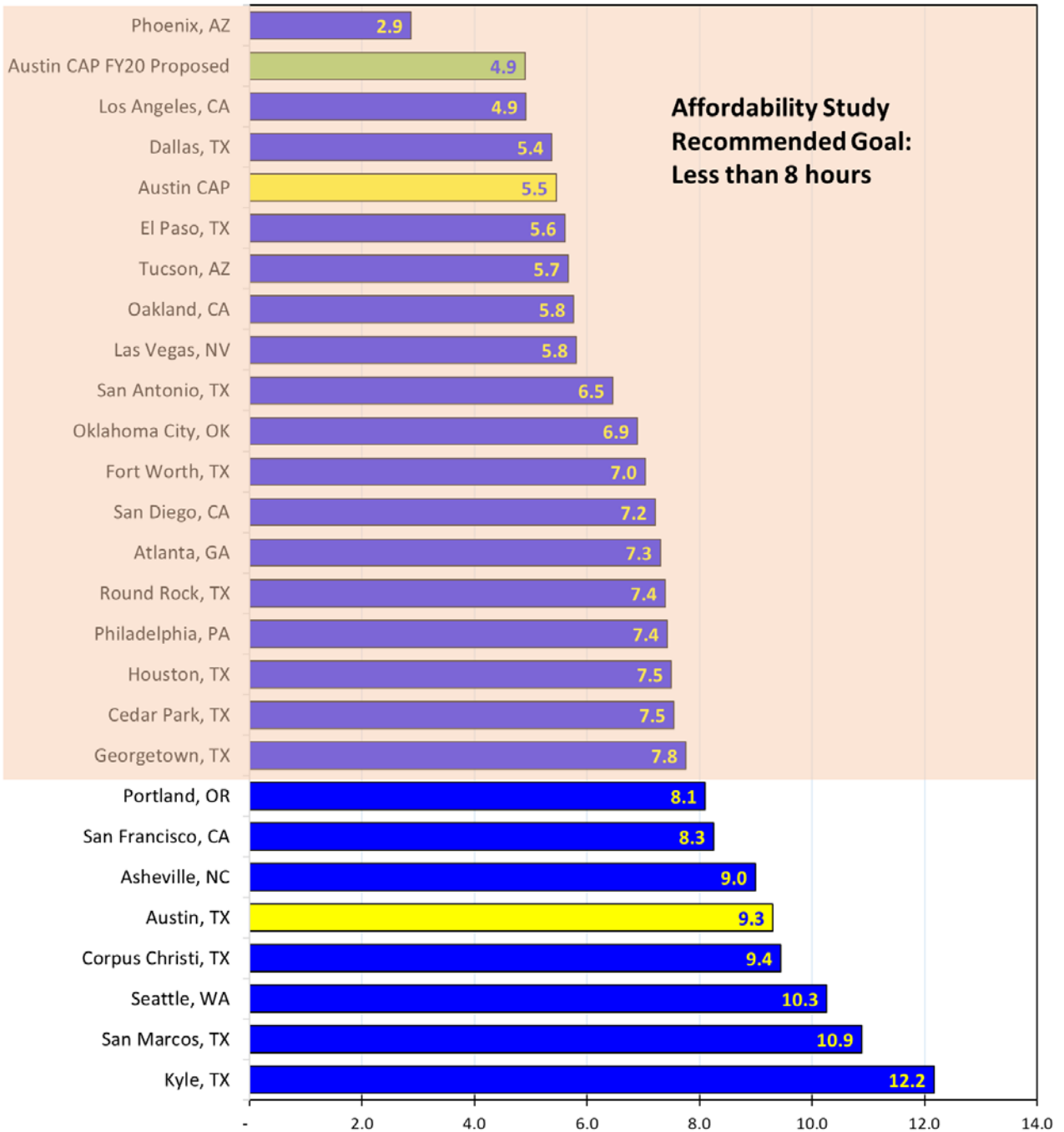
Austin Water's HM for a typical non-CAP residential bill for basic water and wastewater services is at 9.3 hours which is above the suggested 8-hour goal. While Austin Water's CAP bill is at 5.5 hours, there are only 3 cities with lower results. Both the CAP and non-CAP bills are consistent with the results of the 2018 Affordability Benchmark Study.

For FY 2020, AW will propose a \$4.00 per month reduction to CAP customer average bills. This will move the CAP customer bills even lower 4.9 hours and will be the 2<sup>nd</sup> lowest of all cities surveyed.

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<sup>1</sup> In his AWWA article, Professor Teodoro assumed a four-person household, 50 gallons per capita per day consumption, and a 31 day month, which equates to 6,200 gallons monthly.

**Hours Minimum Wage to Pay for Basic  
Water and Wastewater Services  
Existing Rates - (4,000 Gallons Consumption and 4,000 Flows)**



## Metric #6: Average Annual Bill as % of Median Household Income

The average water and wastewater bill calculation prepared in Austin Water's 2019 Bill Comparison Survey is used to determine the annual water and wastewater costs to compare with each cities' median household income. The source of the median household income for each of the cities is the most recent American Community Survey (2017) for each city <sup>2</sup>. To compare the 2017 MHI to the 2019 rates, Austin Water adjusts the MHI by the 10-year national annual average percentage change in nominal Median Family Income (MFI) for Austin from the from the Department of Numbers website <sup>3</sup>.

The percentage of MHI benchmark is commonly used within the water industry, in part because it is relatively easy to calculate. However, there are concerns over the use of this benchmark and how well it measures affordability. First, there are issues with the arbitrary nature of setting standards or goals. An often-used standard has been 2.0% or 2.5% of MHI based on US EPA guidelines to determine a community's ability to pay for capital projects. The use of this benchmark assumes that if a water or wastewater bill is below the 2.0% standard, then it is "affordable", and if the bill is above the standard, it is "unaffordable". There are some utilities that use the standard 2.0% for water and then add another 2% for wastewater, for a combined 4.0%. Second, there are concerns with how income varies within different cities. There can be significant differences between high and low-income households that are obscured by the reliance on MHI. This may cause reliance on MHI to be a poor indicator of affordability, especially for low income households.

Austin Water currently has a Key Performance Indicator (KPI) included in the FY 2019 Approved Budget of total water and wastewater annual bills as a percentage of MHI with a goal of below 1.5%.

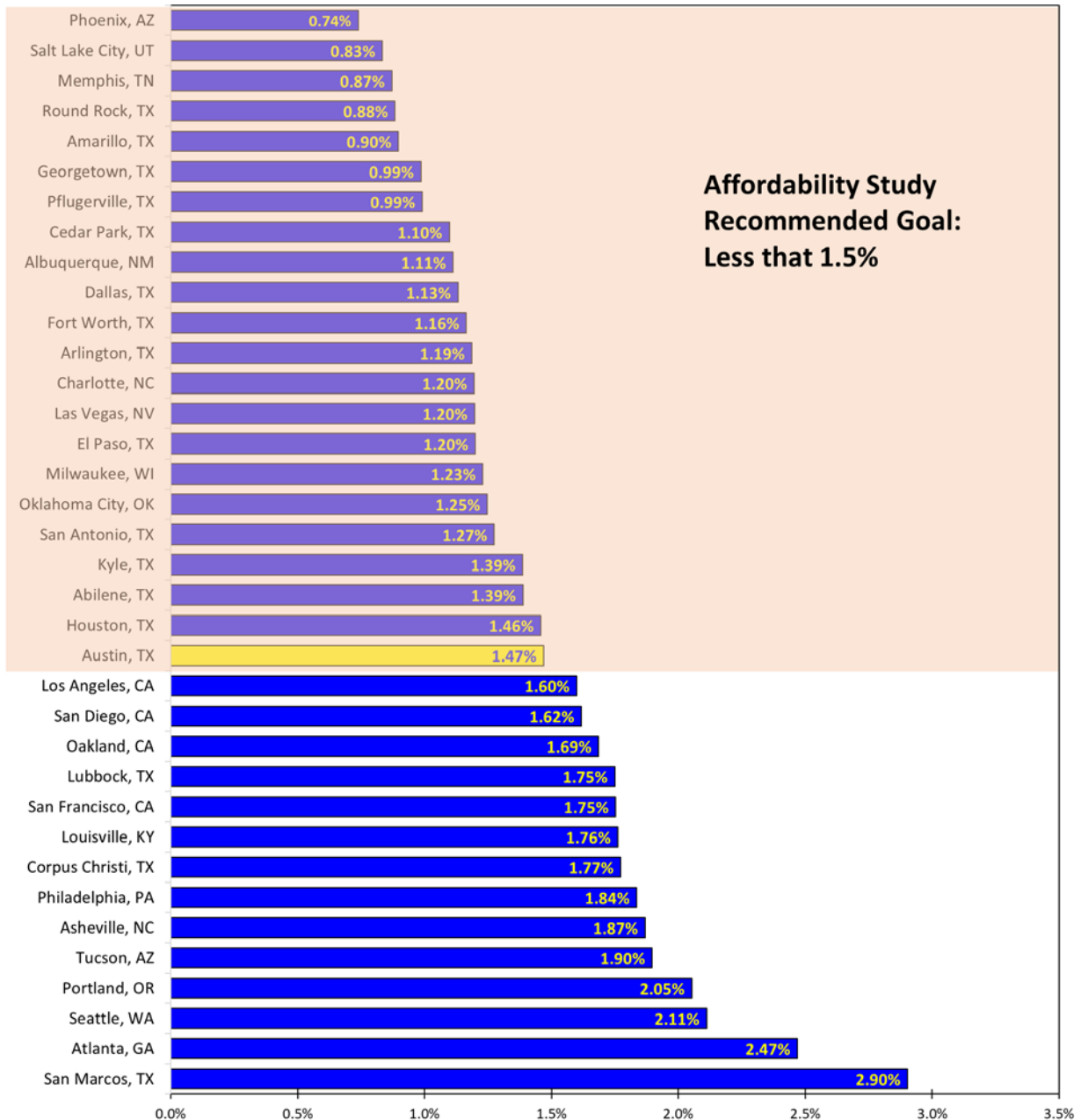
Austin Water residential average annual water and wastewater bills as a percentage of MHI are higher than major Texas cities, with only Corpus Christi, Lubbock and San Marcos higher than Austin Water. For an average residential customer of Austin Water having a median household income, they would spend 1.47% of their annual income on water and wastewater bills. Austin Water average residential customer annual bills as a percent of MHI are ranked 22<sup>ND</sup> out of the 36 Texas and national cities surveyed. The 1.47% is an improvement from the 2018 Affordability Benchmark Study result of 1.53%. This is due to AW keeping rates at the same level for 2019 and estimated median household income increasing to higher levels.

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<sup>2</sup> <https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2016/>

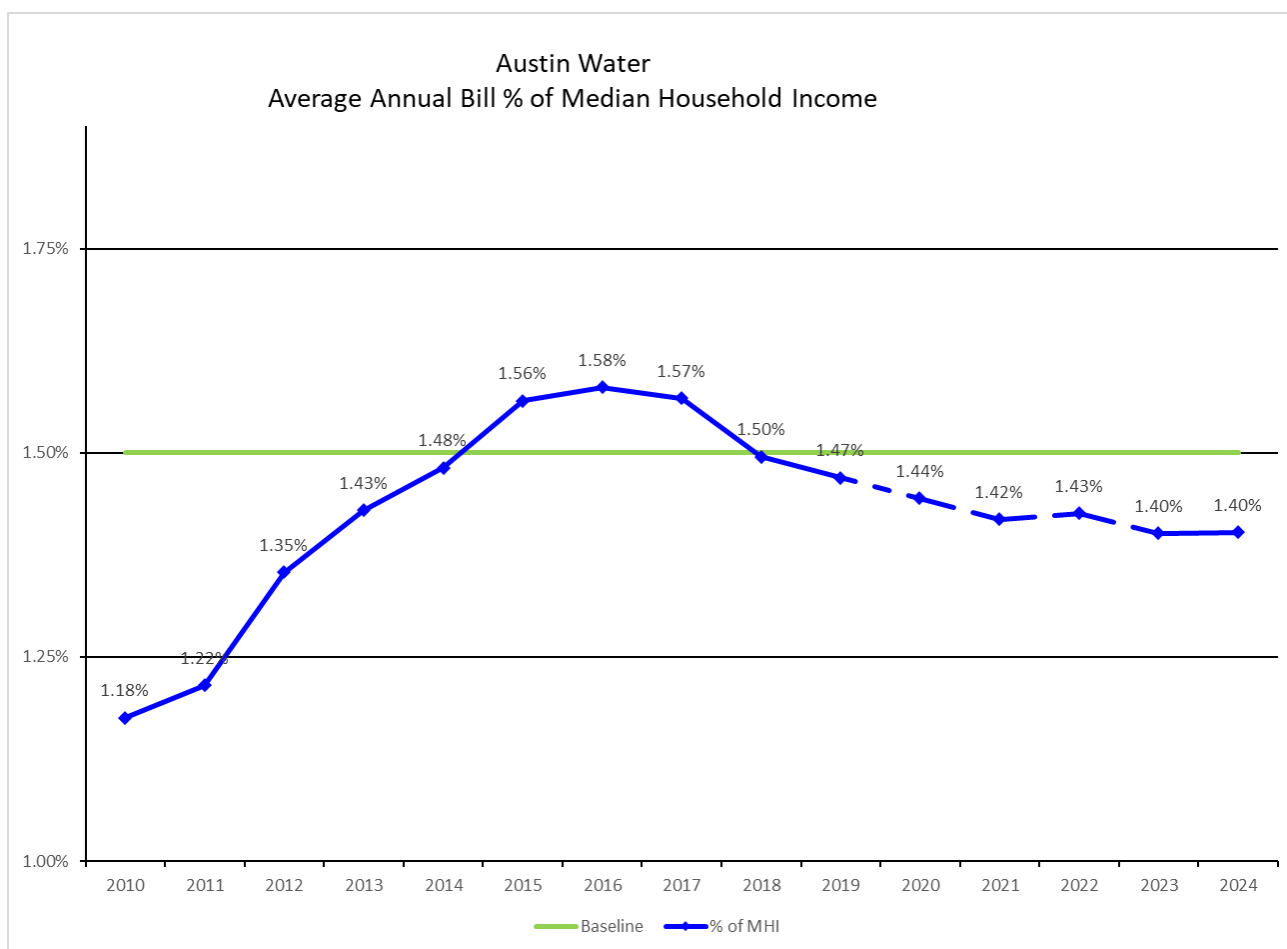
<sup>3</sup> <http://www.deptofnumbers.com/income/texas/austin/>

**Water and Wastewater Bill as a Percent of Median Household Income  
RESIDENTIAL CLASS  
(Austin Average Consumption and Flows)**



## Metric #7: Average Historical Annual Bill as % of Median Household Income

This metric provides a historical look at Austin Water's average customer annual water and wastewater bills as a percent of MHI. Austin Water has set a goal that our average customer's annual water and wastewater bills represents less than 1.5% of the median household income. Historically, Austin Water has not achieved the 1.5% goal except in FY 2011. However, Austin Water forecasts that it will achieve the 1.5% goal in FY 2019. Further, Austin Water forecasts a downward trend for this benchmark to below the 1.5% goal. This is due primarily to Austin Water projecting no rate increases in FY 2019, FY 2020 and FY 2021 with only minimal rate increases in FY 2022 and FY 2024.



## **Metric #8: CAP Customer Historical Average Bill**

AW's rate structure reflects both Austin's environmental and social equity and values. The utility's Customer Assistance Program is an example of its commitment to social equity. In this metric, the historical CAP customer water and wastewater bills are presented. The CAP program was initiated in 2009. The chart reflects enhancements in the CAP program over the years.

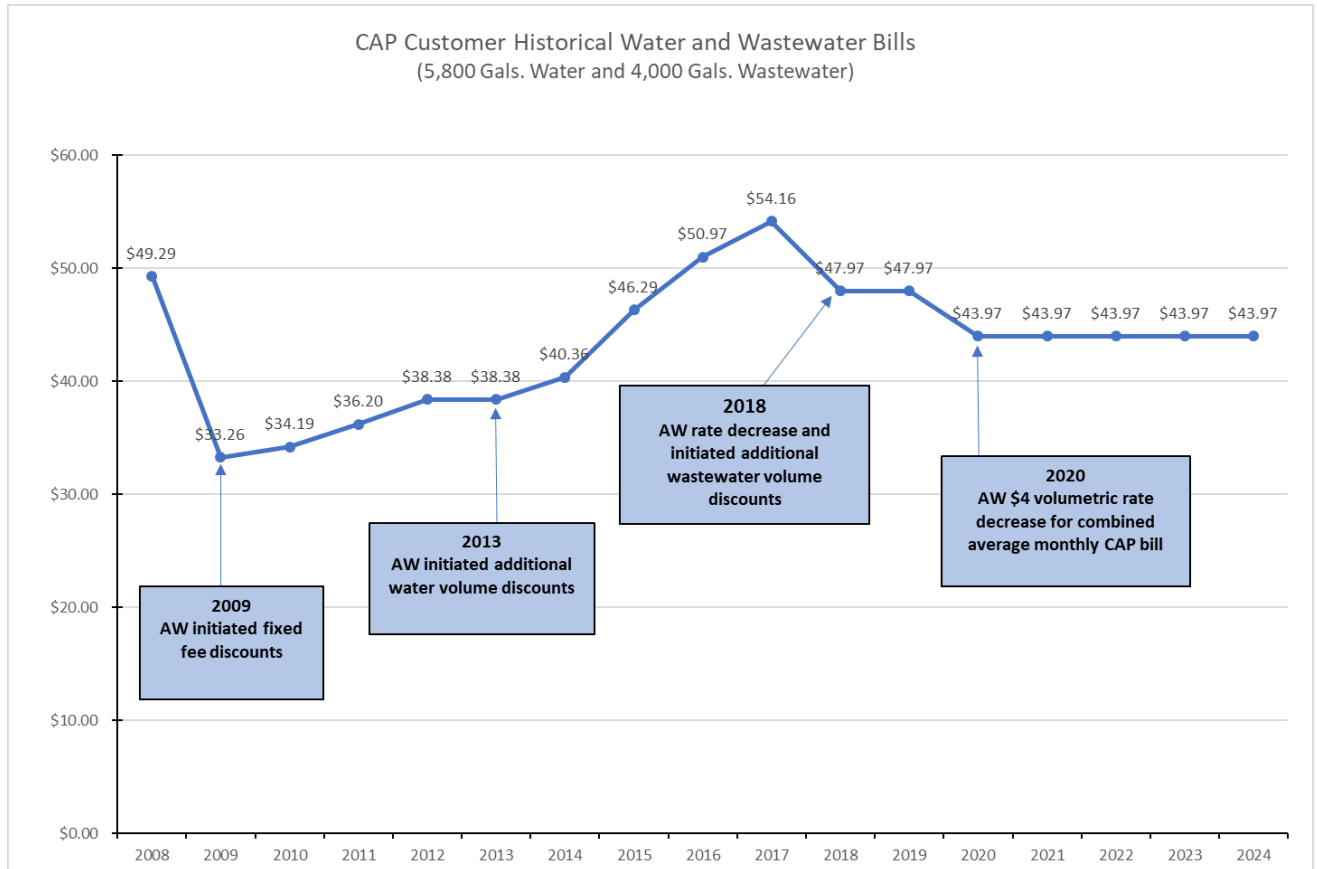
For example, at the beginning of the program, Austin Water provided CAP customers a waiver of their fixed charges. This provided an average 43% discount on their bills.

In 2013, Austin Water provided additional discounts for not only CAP customers' fixed charges, but also a water volumetric rate discount.

Then, in 2018, Austin Water provided an average 4.8% water and wastewater rate reduction for all retail customers including CAP, along with the addition of a new wastewater volumetric rate discount for CAP customers.

In AW's proposed FY 2020 budget, the CAP water and wastewater rates will be reduced further in an effort to enhance the CAP customer discounts. The water and wastewater volumetric rates will be reduced in Tier 1 by \$1.00 per 1,000 gallons. This will impact the CAP customer by reducing their average bill by \$4.00 per month. This will increase the CAP customer discount from 40% to 45%, effective in November 2019 assuming approval by Council. This is an improvement as compared to the results of the 2018 Affordability Benchmark Study.

CAP Customer Historical Water and Wastewater Bills  
(5,800 Gals. Water and 4,000 Gals. Wastewater)





## Metric #9: High Volume Residential Bill Comparison

This metric provides the high volume residential bill comparison using 10,000 gallons water and 5,000 gallons wastewater discharge. Austin Water's residential rate structure is designed to provide higher costs for higher volume use. At these high-volume levels, Austin Water is less competitive with other cities than the average customer bill comparison results. At these high-volume levels, only one central Texas city, Kyle, is above Austin Water bills. The major Texas cities are all below Austin Water bills.

For our CAP customer residential bills at the high-volume levels, the goal is to be below the 50<sup>th</sup> percentile. Currently, AW's CAP customers are ranked 17<sup>th</sup> out of 36 cities surveyed, which is just below the 50% level. For the CAP customer bills at these high volumes, Austin Water CAP customers are higher than most major Texas cities, except Houston. At these high-volume levels, the CAP residential bill is only 65% of the non-CAP Austin Water customer bill. This represents a discount of 35% on bills for our most vulnerable low-income CAP customers using these higher volumes. The discount provided is a waiver of all fixed fees and a discounted volumetric rate per 1,000 gallons for blocks 1 through 4, with only the block 5 rate for CAP customers being the same as the rate for non-CAP residential customers. For 2019, the AW CAP bill remained at \$83.38, which improved AW CAP ranking by one from the 18<sup>th</sup> within the 2018 Affordability Benchmark Study. For FY 2020, AW will propose a \$4.00 per month reduction to CAP customer average bills. This will move the CAP customer bills even lower and will improve our CAP ranking from 17<sup>th</sup> to 13<sup>th</sup>.

For our non-CAP residential average bills, AW's goal is to be below the 75<sup>th</sup> percentile of all Texas and national cities surveyed over the next five years. Currently, Austin Water's average residential bill is just above the 75<sup>th</sup> percentile, ranking 29<sup>th</sup> out of 36 cities surveyed. This is consistent with the results of the 2018 Affordability Benchmark Study. Over the next five years, Austin Water anticipates significant improvement within this benchmark given the projection of no rate increases over the next two years and with minimal rate increases after that.

**AVERAGE MONTHLY BILL COMPARISON - COMBINED  
RESIDENTIAL CLASS  
Existing Rates - (10,000 Gallons Consumption and 5,000 Flows)**

